

### ABSTRACT

A hydrogen generating apparatus or the like is able to detect an excess water state or an excess steam state in the interior of a shift converter or a selective oxidation device. The hydrogen generating apparatus (120) comprise a hydrogen generator (118) including a reformer (100) configured to generate a reformed gas from a material and steam; a shift converter (103) configured to cause the reformed gas supplied from the reformer (100) to be subjected to a shift reaction; and a selective oxidation device (105) configured to decrease a concentration of carbon monoxide in the reformed gas after the shift reaction to a predetermined concentration or less; a temperature sensor (116, 117) configured to detect one of a temperature of the shift converter (103) and a temperature of the selective oxidation device (105); and a controller (205) configured to determine that excess water or excess steam exists in an interior of the hydrogen generator (118) when an increasing rate of the temperature detected by the temperature sensor is less than a predetermined threshold.